

Date: Tue, 16 Aug 94 04:30:21 PDT
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>
Errors-To: Ham-Digital-Errors@UCSD.Edu
Reply-To: Ham-Digital@UCSD.Edu
Precedence: Bulk
Subject: Ham-Digital Digest V94 #273
To: Ham-Digital

Ham-Digital Digest Tue, 16 Aug 94 Volume 94 : Issue 273

Today's Topics:

 900 MHz spread spectrum systems
 [Q] best software for KAM+ (2 msgs)
 [Q] ftp site for xpkam ?
 Help! I need info for a telemetry project(packet driver??)
 Jnos Config with E/Net card
 Packet Radio with apple LC ?
 PACTOR/AMTOR subbands...where?
 PacTOR subbands
 PK-88 to Kenwood TM-231A interface
Quadra 610 DOS/Packet Gold <-> PK232 Help: It's not working.
 RE >Packet with Mac LC
 TAPR FTP SITE???
 TNC construction article
 Widrow-Hoff LMS algorithm for DSP???

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 15 Aug 1994 17:19:50 GMT
From: netcomsv!netcom.com!grady@decwrl.dec.com
Subject: 900 MHz spread spectrum systems
To: ham-digital@ucsd.edu

Steve_Allen (stevalln@dorsai.org) wrote:

: My understanding is that these phones use direct sequence spread spectrum.
: I was browsing thru a book on this the other day (idly, at the bookstore

: while looking for other stuff), and seem to recall reading that dsss is
: the easiest mode to sync to. I think you sort of slide your sequence back
: and forth over the signal, and when they're synced, the signal gets clear
: in an easily detectable way. (Can't remember the details of that, tho).

The same principle is used in the GPS constellation and some kinds of
amateur packet modems to enhance the transmission reliability of small
amounts of data in the presence of a large amount of random noise.

The base transmits a short pseudorandom sequence of bits. The receiver
slides the same sequence along the uncorrelated background noise until
the receiver notices that in one particular position there are far
more matching "peaks" and "valleys" than in any other position. You
are now in sync and can then copy the bursts that follow relatively
easily.

Reputedly phones like the Tropez do not actually use spread-spectrum for
the voice portion of the transmission, though, so we're still going to
have to wait for Voice-PGP or something before we have true voice/data
radio security.

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Grady Ward		For information and free samples on		"Look!"
grady@netcom.com		royalty-free Moby natural language		-- Madame Sosostriis
+1 707 826 7715		lexicons (largest in the world),		A91F2740531E6801
(voice/24hr FAX)		run: finger grady@netcom.com		5B117D084B916B27

Date: Mon, 15 Aug 1994 14:44:44 GMT
From: equalizer!timbuk.cray.com!cdsmail!uchinews!kimbark!khopper@network.ucsd.edu
Subject: [Q] best software for KAM+
To: ham-digital@ucsd.edu

New KAM+ owner seeks good software suggestions.
OP only on HF.

TNX,

Ken Hopper,		-----	
November 9 Vivid Video		o o _ / o o	
HF - CW, PacTOR, RTTY, SSTV		o o @ o o	
k-hopper@uchicago.edu		-----	

Date: Mon, 15 Aug 1994 18:03:41 GMT
From: ihnp4.ucsd.edu!news.cerf.net!mvpb.saic.com!eskimo!ranger@network.ucsd.edu

Subject: [Q] best software for KAM+
To: ham-digital@ucsd.edu

In article <1994Aug15.144444.23552@midway.uchicago.edu>,
khopper@kimbark.uchicago.edu (Kenneth C Hopper) writes:

> New KAM+ owner seeks good software suggestions.
> OP only on HF.

>

> TNX,

>

> Ken Hopper,
> k-hopper@uchicago.edu

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[A[A[A[A[A[A[A[A[A[A[B[B[B[B[B[C[C[C[C[C[C[C[C[C
Ken,

.

Date: Mon, 15 Aug 1994 15:03:03 GMT
From: equalizer!timbuk.cray.com!cdsmaill!uchinews!kimbark!khopper@network.ucsd.edu
Subject: [Q] ftp site for xpkam ?
To: ham-digital@ucsd.edu

Anyone have an ftp site for the latest version of xpkam ?

TNX

Ken - N9VV k-hopper@uchicago.edu

Date: Mon, 15 Aug 1994 05:07:00 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!usenet.ins.cwru.edu!magnus.acs.ohio-
state.edu!csn!news.usafa.af.mil!cs30-23.usafa.af.mil!
LOUXWE96%CS25@network.ucsd.edu
Subject: Help! I need info for a telemetry project(packet driver??)
To: ham-digital@ucsd.edu

Hello,

I am a cadet at the US Air Force Academy and this semester I am taking an
independent research project where we will be building a hybrid rocket and
testing it.

I am in charge of the telemetry on this rocket. We must send and receive
various info(i.e. temp, pressure, g's, etc.) and put this info in some
readable digital form. Being as this is only a college project we do not

have very much money and need to find a cheap alternative to expensive telemetry equipment.

I have been reading hobby radio magazines and think that your technology would be just right for my purpose. I need you to tell me if there is anything in the radio community that I could use for this. I think that it may be possible to send the info from an onboard transmitter and then use a reciver and packet driver to send this information into a PC and in a digital form, but I do not know enough about this technology to know if this is something that will work. I need info from you.

Please, any information on what to do or where to look for what to do would assure my undying support!

Thank you!
Bill

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-----
* Cadet William E. Loux          | "I have never let my   *
* P.O. Box 2835                  | schooling interfere  *
* United States Air Force Academy | with my education."  *
* Email=> louxwe96%cs25@cadetmail.usafa.af.mil | -Mark Twain          *
-----"All know the way; Few actually walk it." -Bohhidharma-----
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```
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Date: Sun, 14 Aug 1994 01:09:28 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!usc!elroy.jpl.nasa.gov!netline-fddi.jpl.nasa.gov!
nntp-server.caltech.edu!news.cerf.net!mvb.saic.com!eskimo!
rdonnell@network.ucsd.edu
Subject: Jnos Config with E/Net card
To: ham-digital@ucsd.edu
```

Alastair "J." Downs (ee17@csu.napier.ac.uk) wrote:
: Has anyone managed to configure Jnos v1.10xx to work with an ethernet card.
: The cards I have in mind are NE2000, WD8003 etc.
: Sample config file would be very much appreciated.
: I have tried using the clarkson packet drivers and using the Attach packet
: command without any success.

Well, that is what I did - I'm using an NE-2000 and the clarkson packet drivers, along with the 'attach packet ...' command. Here is a transliteration (typing from one monitor to the other keyboard) of the batch file, which will be followed by the autoexec.nos fragment that gets it going.

```
-----
ne2000 0x60 0xf 0x320      # for sw interrupt 60, IRQ 15, address 320
nos
-----
```

```

attach packet 0x60 ether 10 1500 # for sw interrupt 60, 10 buffers, 1500 bytes
ifconfig ether ipaddress <my ip address>
ifconfig ether netmask 0xffffffff # not running ethernet as its own subnet
ifconfig ether broadcast <my broadcast address>
arp publish <ethernet machine #1's ip address> ax25 <ax25 mycall> <ax25 iface>
arp publish <ethernet machine #2's ip address> ax25 <ax25 mycall> <ax25 iface>
arp publish <ethernet machine #3's ip address> ax25 <ax25 mycall> <ax25 iface>
route addprivate <ethernet machine #1's ip address> ether
route addprivate <ethernet machine #2's ip address> ether
route addprivate <ethernet machine #3's ip address> ether

```

The main reason for the broadcast address is to allow using rip routing on the network. The 'arp publish' causes the router to respond as if it were the computer you were really trying to reach, so other stations will send a packet with the ethernet'd computer's IP address to the router. Hope that helps.

Also - does the version of JNOS you are using have the packet driver compiled in? Look at 'info' to see if it says 'FTP Software's PACKET driver interface. If not, you can't use ethernet cards with that version.

: 73s de

```

: %% Alastair J. Downs      \_/_/_/_/   a.downs@csu.napier.ac.uk %%
: %% E.E & Comp.Eng.Dept.   \ | \ \ \ \   phone +44 31 455 4389 %%
: %% Napier University, Edinburgh | _      fax: +44 31 455 7938 %%
: %% Scotland, UK          |_ | |_      GM6NEI@GB7EDN.#77.GBR.EU %%

```

73,

Bob

--

```

-----
Bob Donnell, kd7nm      bob@ethanac.kd7nm.ampr.org   rdonnell@eskimo.com
Western Washington Amateur IP Address Coordinator   (206) 775-3651
-----

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Date: 15 Aug 94 19:09:53 GMT
From: news-mail-gateway@ucsd.edu
Subject: Packet Radio with apple LC ?
To: ham-digital@ucsd.edu

```

> Hello there,
> does anyone know how to use a mac (lc) for packet radio, i.e. with the baycom or another

> modem? Are programmes available on anon. FTP sites ?

> 73's Adrie.

>

Yes, look for SoftKiss 1.8. This driver makes a Baycom-style modem look like a KISS TNC. Then you need NET/Mac and IM/Mac for NOS style use, or you can buy the commercial program "Savant" for AX.25 use.

Look for the freeware stuff at ftp.ucsd.edu and the sumex site. Savant is by the same author as the shareware program Virtuoso.

73, David N4HHE
dkelly@nebula.tbe.com

Date: 13 Aug 1994 14:06:26 -0700
From: ihnp4.ucsd.edu!sdd.hp.com!usc!howland.reston.ans.net!agate!
darkstar.UCSC.EDU!news.hal.COM!olivea!isc-br!tau-ceti!on-ramp.ior.com!not-for-
mail@network.ucsd.edu
Subject: PACTOR/AMTOR subbands...where?
To: ham-digital@ucsd.edu

I believe that Hawaii and Alaska are in different ITU Zones and that some of the phone allocations maybe be different. I know that hams in Alaska can use phone in the lower portion of 40 meters, but I am not sure if this applies to Hawaii. Maybe someone else can comment on that.

As to the PACTOR subbands..you will usually find PACTOR stations operating in the .070 - .080 range of each band where those frequencies are authorized, e.g. 14.070-14.080, 7.070-7.80. An exception to this rule might be the WARC bands where 10.140 seems to be a popular frequency. Hope this helps.

73, Bob KG7WC

--

Robert J. Raymond	Spokane, Washington	bobr@on-ramp.ior.com
Patricia Raymond	Amateur Callsign KG7WC	70235.430@compuserv.com

Date: 12 Aug 1994 00:13:04 -0400
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!swiss.ans.net!
newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@network.ucsd.edu
Subject: PacTOR subbands
To: ham-digital@ucsd.edu

Joe,

I can't answer the first part of your question; but I can tell you where you'll find the digital modes on 40 meters. From about 7.065 to about 7.070 you'll hear alot of AMTOR. A G-TOR station or two will hang around 7.070 to about 7.072.

PacTOR freely takes up the spectrum from about 7.073 to about 7.080 or thereabouts. At 7.080 to about 7.090, you'll hear alot of plain ol' vanilla RTTY. Above there you'll hear HF packet.

Good luck and have fun!

73 de Larry N2ELW
LarryN2ELW@AOL.com

Date: Sun, 14 Aug 1994 01:19:22 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!usc!elroy.jpl.nasa.gov!netline-fddi.jpl.nasa.gov!
nntp-server.caltech.edu!news.cerf.net!mvp.saic.com!eskimo!
rdonnell@network.ucsd.edu
Subject: PK-88 to Kenwood TM-231A interface
To: ham-digital@ucsd.edu

Jay Sissom (JAY@medicine.dmed.iupui.edu) wrote:

: Last night, I built a cable to connect my PK-88 to my TM-231A. I don't have
: the pin out here, but it was quite simple.

: Unfortunately, the DCD lite on the PK-88 stays on when the radio is squelched.
: Because of this, the PK-88 will never tell the radio to transmit. It
: receives fine. If I am tuned to a repeater and there is no sound coming
: through the repeater, then the DCD lite is off. I'm kind of confused. This
: PK-88 has been hooked up to my Icon IC-28H for years with no problems.

: Has anyone else seen this problem, and solved it?

Sounds like you have one of the Kenwoods that has unsquelched audio on the
mike connector. Without adding a 'true DCD' circuit (surgery required) to
the PK-88, you will have to disconnect the receive audio wire in the Kenwood
mike plug (green wire if you're using AEA's cable) and use the speaker jack
on the back of the radio for receive audio - or back to the IC-28 :)

: Thanks
: Jay
: KA9OKT
: jay@medicine.dmed.iupui.edu

Sure thing! 73
Bob (ex AEA tech support guy)

--

Bob Donnell, kd7nm bob@ethanac.kd7nm.ampr.org rdonnell@eskimo.com
Western Washington Amateur IP Address Coordinator (206) 775-3651

Date: Fri, 12 Aug 1994 04:08:07 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!agate!dog.ee.lbl.gov!
newshub.nosc.mil!news!news@network.ucsd.edu
Subject: Quadra 610 DOS/Packet Gold <-> PK232 Help: It's not working.
To: ham-digital@ucsd.edu

Hi. We have a problem with a Mac serial port controlling a PK232MBX:
My father, WA7JHA, used PacketGold v8 with his AEA PD232MBX on an IBM
286AT clone for years.

Now he has upgraded to an Apple Macintosh Quadra 610 DOS machine which
has a 486 chip
on board with DOS 6.0 and it runs the PacketGold software just fine.
However, he's having
trouble - in fact it isn't working at all - getting the software to
interact with the PK232
via a standard Hayes modem cable for the Mac, via the Mac modem serial
port.

The PacketGold software reports: "Turn the modem off" and when he
complies, it reports
"Unable to find modem on any serial port.."

We have written to Apple, Interflex, and AEA about this, and are
waiting for responses.

We have Zterm, a basic terminal application for the Mac, but this
doesn't make the PK232
respond either.

Who has run the Quadra 610 DOS with packet, and how did you do it?
If you're using
a DOS 486 card on a Quadra 610 (or any Mac) to control a serial port
device, how is it working
out?

Please contact me via internet, (post a response if you like, but
please email directly to me as well) with suggestions or comments

regarding System 7 applications for packet on Macs
or his specific problem.

If you have a suggestion for who else to contact about this problem,
please speak up. Thanks.

Thanks for your help and 73.

Roger Keating - KD6EFQ - Ken Keating - WA7JHA
keating@nosc.mil

Date: 16 Aug 94 02:52:40 GMT
From: news-mail-gateway@ucsd.edu
Subject: RE >Packet with Mac LC
To: ham-digital@ucsd.edu

>Subject: Packet Radio with apple LC ?
>To: ham-digital@ucsd.edu

>Hello there,
>does anyone know how to use a mac (lc) for packet radio, i.e. with the baycom
>or another
>modem? Are programmes available on anon. FTP sites ?
> 73's Adrie.

Dear Adrie,

Your modem or printer ports on your Mac LC are RS-422 with is compatible with
the RS-232 interfaces on most TNCs. The trick is to find the proper adapter
cable to convert 8-pin DIN to 25-pin RS-232. Most Radio Shacks or Apple dealers
sell them. Find the simplest, cheapest terminal program (some are available
from ftp sites free) and see if you can communicate with the TNC with the
terminal program. If you can do this you are ready to get on packet.

Follow the TNC manufacturer's insructions for connecting it to your VHF/UHF
radio. This may require a little cable soldering to make the proper connection
to the PTT and earphone jack on your rig. Most TNC makers are good with
detailed instructions.

I use a Quadra 660 AV connected to a MFJ-1270B and can do standard BBS packet
with a terminal program. I also am experimenting with TCP/IP using NET/Mac 2.3
software (this requires a TNC with KISS capablilty. Good luck.

Jerry Benterou kk6wb
ampr: <jerry%kk6wb%www6i@kg6kf.ampr.org>
Internet: <benterou1@llnl.gov>

Monday, August 15, 1994
7:52:40 PM

Date: 14 Aug 1994 14:51:20 GMT
From: nntp.crl.com!lgenco@decwrl.dec.com
Subject: TAPR FTP SITE???
To: ham-digital@ucsd.edu

Michael Warchut (mwarchut@twain.ucs.umass.edu) wrote:
: Does anyone know the ftp site for TAPR.

Try:
ftp.hereford.ampr.org

73 de N5SGL / Lou

Date: Sun, 14 Aug 94 08:58:32 EDT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!
sol.ctr.columbia.edu!news.kei.com!world!mv!lmr!rapp@network.ucsd.edu
Subject: TNC construction article
To: ham-digital@ucsd.edu

<BSoranno@vax2.winona.msus.edu> writes:

> Does anybody know of a construction article for a "general purpose" TNC?
>
> These are my requirements:
> 1) Standard serial connection. (I have 4 different computers and would like
> to be able to connect to all).
>
> 2) An internal processor of some type to minimize the overhead on the
> computer.
>
> If these are too strict, please let me know.
> Thanks.
>
> Bill Soranno -- KB0NKX
> 7 Fairfax
> Winona, MN 55987
> 507/452-3789

All TNC's fit your bill pretty well. They all run off a serial port, and
contain a microcomputer to handle most of the overhead. MFJ, Kantronics,

Tiny TNC - all will do what you want.

Larry W1HJF

L. M. Rappaport & Associates, Inc. rapp@lmr.mv.com voice +1 603 237 8400
Colebrook, NH 03576-0158 CIS 72427,2567 fax +1 603 237 8430

Date: 14 Aug 1994 20:18:14 GMT
From: ihnp4.ucsd.edu!pacbell.com!sgiblab!uhog.mit.edu!news.kei.com!
sol.ctr.columbia.edu!howland.reston.ans.net!vixen.cso.uiuc.edu!
kspencer@network.ucsd.edu
Subject: Widrow-Hoff LMS algorithm for DSP???
To: ham-digital@ucsd.edu

schcnck@jicama.ece.ucdavis.edu (Jeff Schenck) writes:

>In article <ahall-1308940337410001@ruger-5.slip.uiuc.edu> ahall@ux4.cso.uiuc.edu
(Allen Hall) writes:

> Hello again everyone,

> I was wondering if you knew anything about the Widrow-Hoff LMS algorithm
> that was used in Sept. 1992 QST's article "Low-Cost Digital Signal
> Processing for the Radio Amateur". Appearantly the LMS algorithm is nice
> to use to cut out signals that are repetetive when listening to SSB (you
> wouldn't use it for CW- cause all you would hear instead of the morse code
> was a "click" evvertime a new tone came buy :)

[stuff deleted]

>LMS is a form of the steepest descent algorithm dating back to Cauchy
>(or some other famous dead guy), where the gradient of the mean
>squared error (MSE) with respect to the weight vector is used adjust
>the weights so as to minimize the MSE.

[stuff deleted]

>As you can see, it's a simple algorithm to implement, which is why
>it's so popular. It can be slow to converge, however, depending on
>the error surface and the initial weight vector. Also, because it
>never (or almost never) actually reaches the minimum MSE, the LMS name
>is not quite acurate; some people prefer "stochastic gradient"
>algorithm. But since it's so simple, it's easy to simulate and play

>around with on a computer. Have fun.

>--

>Jeff Schenck

>schenck@ece.ucdavis.edu

>Department of Electrical and Computer Engineering

>University of California

>Davis, CA 95616

>(916) 752-1326

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And by the way, the Widrow-Hoff algorithm is the same as a back-propagation neural network.

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Kevin Spencer

Cognitive Psychophysiology Laboratory and Beckman Institute

University of Illinois at Urbana-Champaign

kspencer@p300.cpl.uiuc.edu / kspencer@psych.uiuc.edu  
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End of Ham-Digital Digest V94 #273

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